

**Montana Board of Oil and Gas Conservation  
Environmental Assessment**

**Operator:** Fidelity Exploration and Production Company

**Well Name/Number:** Fee/Grebe 24-28H

**Location:** NW NE Section 33 T11N R33E

**County:** Rosebud, MT; Field (or Wildcat) W/C

**Air Quality**

(possible concerns)

Long drilling time: No, 20 to 30 days drilling time.

Unusually deep drilling (high horsepower rig): No, a triple drilling rig to drill to a 10,452'MD/4905' TVD single lateral horizontal Heath Formation well test.

Possible H2S gas production: Slight H2S possible.

In/near Class I air quality area: No class I air quality area, in the area of review.

Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: No special concerns – using a triple drilling rig to drill a 10,452'MD/4905' TVD single lateral horizontal Heath Formation well test. No gas gathering system exists in this area. Associated sweet gas and H2S gas can be flared under Board Rule 36.22.1220, if no gathering systems are in close proximity to this well.

**Water Quality**

(possible concerns)

Salt/oil based mud: No, surface hole will be drilled with freshwater. Main hole will be drilled with inhibited freshwater and inhibited freshwater drilling mud. Horizontal lateral will be drilled with inhibited freshwater mud system.

High water table: No high water table in the area of review.

Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Rattlesnake Creek, also an ephemeral drainage, about 3/8 of a mile to the east from this location. A large stock pond lies within the same unnamed drainage about 3/8 of a mile to the southeast from this location.

Water well contamination: No, closest water wells are further than mile from this location in any direction. This well will drill and set 9 5/8" surface casing to 500' and cement to surface. Well will be drill with inhibited freshwater based drilling fluids from base of surface casing to intermediate casing depth of TD of 5029'. Well will be drilled horizontally into the Heath Formation with a 6 1/8" hole and inhibited freshwater drilling fluids to 9,676'MD/4905' TVD and 4 1/2" casing liner will be run.

Porous/permeable soils: No, silty "Gumbo" clay soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing  
☐ Berms/dykes, re-routed drainage  
☐ Closed mud system  
☒ Off-site disposal of solids/**liquids** (in approved facility)  
☒ Other: Drill cuttings will be buried in the lined reserve/cuttings pit and mixed off with dry subsoil. Cuttings pit will be closed when dry. A minimum of four feet (4') dry subsoil and topsoil will cover the reserve/cuttings pit.  
 Comments: Freshwater mud system to be used on surface hole. Inhibited freshwater mud system will be used out from under surface casing to 5029' TD intermediate casing hole. Inhibited freshwater drilling fluids will be used to drill the horizontal lateral to 9,676'MD/4905' TVD. Fluids in the lined reserve pit will be trucked to a permitted Class II Disposal. The reserve/cuttings pit will be allowed to dry and then mixed buried with cuttings and subsoil with at least 4' of cover. No concerns.

### Soils/Vegetation/Land Use

(possible concerns)  
 Steam crossings: No live water stream crossings. Crossing only ephemeral drainages.  
 High erosion potential: No, small cut, up to 6.2' and small fill, up to 4.1', required.  
 Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.  
 Unusually large wellsite: No, a large location, 470X470' size required. Location is the same location as the Fidelity Grebe 31-33H, but extended for the new well, Grebe 24-28H.  
 Damage to improvements: Slight, surface use is grass and sagebrush grazing land.  
 Conflict with existing land use/values: Slight  
 Mitigation  
☐ Avoid improvements (topographic tolerance)  
☐ Exception location requested  
☒ Stockpile topsoil  
☐ Stream Crossing Permit (other agency review)  
☒ Reclaim unused part of wellsite if productive  
☐ Special construction methods to enhance reclamation  
☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).  
 Comments: Access will be from existing county road, Sumatra Road. About 1.9 miles of new road will be constructed into this location off the existing county road. Freshwater drill cuttings and mud solids will be buried in the lined reserve/cuttings pit. Lined pit will backfilled with 4' of cover when dry. Drilling fluids will be trucked to a Class II Disposal around Sidney, Montana. No concerns.

### Health Hazards/Noise

(possible concerns)  
 Proximity to public facilities/residences: Closest no residences within about 1 mile radius from this location. The town of Sumatra, Montana is about 3.5 miles to the southeast from this location.  
 Possibility of H<sub>2</sub>S: Yes, slight chance of H<sub>2</sub>S.  
 Size of rig/length of drilling time: Triple derrick drilling rig, about 20 to 30 days drilling time.  
 Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: \_\_\_\_\_

Comments: Operational BOP and adequate surface casing should mitigate any problems. (BOP's 5,000 psig annular, pipe and blind rams) rule 36.22.1014. No concerns.

### **Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species identified in this county are the Pallid Sturgeon, Interior Least Tern and the Black-Footed Ferret.

Candidate species are the Greater Sage-Grouse and Sprague's Pipit. NH tracker website lists three (3) "Species of Concern" in T11N R33E. They are the Black-tailed Prairie Dog, Greater Sage-Grouse and the Brewers Sparrow.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: \_\_\_\_\_

Comments: Private surface grazing land. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: \_\_\_\_\_

Comments: Private surface grazing land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

### **Social/Economic**

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Well is a wildcat, until production is established, no social or economic impact can be assessed.

**Remarks or Special Concerns for this site**

Well is a 10,452' MD/4905' TVD single lateral horizontal Heath Formation well test.

**Summary: Evaluation of Impacts and Cumulative effects**

No long term impacts expected. Some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki  
(title:) Chief Field Inspector  
Date: July 14, 2012

Other Persons Contacted:

Montana Bureau of Mines and Geology GWIC website

(Name and Agency)

Rosebud County water wells

(subject discussed)

July 14, 2012

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES

MONTANA COUNTIES, Rosebud County

(subject discussed)

July 14, 2012

(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)

Heritage State Rank= S1, S2, S3, T11N R33E

(subject discussed)

July 14, 2012

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_